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2021 Honors Portfolio

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Fontbonne University

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Introduction

Welcome to my portfolio. I am Josephine Bahr, a senior in Applied Mathematics. This is how I usually introduce myself. Very surface level and basic. As you read my portfolio, you will become acquainted with some of the other layers within me. Some are fun and inspiring successes. Some are inner thoughts that usually don't ever make it to the surface. Some may even contradict each other, but the contradictions in humans are what make humans so interesting.

Through each portfolio, I attempted to reflect what I actually think about the experiences that have shaped me here at Fontbonne. I tried to show my real thoughts, although many are toned down or spun more positively. While each is still honest, I think this masking makes it easier to write down my thoughts when I don't know who the audience will be.

Simply writing narrative essays was an interesting challenge. I've taken mostly technical courses during the last couple years, and this reflective narrative approach to writing reminded me there are beautiful things outside of more logical fields. My emotions and experiences can be looked at logically, but they're much better conveyed creatively in ways where (hopefully) you can connect with my thoughts and feel some of my emotions in your own mind. I'm not that great of a writer, and so I will consider it a success if you feel this way at least once.

Without further ado, welcome to my portfolio. I hope you enjoy learning more about me.

Transformation

Leaving the Bubble

In a cold January, I was walking down the front steps, leaving the Basilica of Washington, D.C., with some newly found friends. A friend said to me, “You don’t believe in [insert topic]?” They nudged their friend and said to them, “Tell her where it is in the Bible.” The other friend proceeded to quote from books that had not been presented as scripture to me before. Outwardly, I listened patiently. Inwardly, I felt hot and sick. How would I tell him I disagree and would need him to prove his ‘proof’ as well? This encounter of difference and disorientation was one of many that I faced when I started college.

For 18 years, I lived surrounded by people who accepted the same truths as me. I am a cradle Lutheran, my dad is a pastor, and I went to Lutheran preschool, grade school, homeschool, high school, weekly worship, and nightly devotions for my entire life. Then, I moved from my family home to St. Louis where I now attend Fontbonne, a Catholic university with students from an amalgam of backgrounds.

With my venture outside the Lutheran community, I had to find religious resources independently. I learned to research when I had a philosophical and religious doubt. Previously, this information was readily given to me through bible study, religion class, answers to questions pitched at my dad the pastor and my peers. At college, these sources are harder to access, and I felt lost because finding material to sustain me was a new responsibility. Now I receive guidance via reading the study Bible, listening to podcasts, and flipping through theological research publications sought out independently. Without the easily accessible resources from before, I have unexpectedly strengthened my ability to seek answers on my own and more mindfully. This requires much more effort and time, and the independent research endeavors are frequently shelved or sometimes ultimately forgotten. Nevertheless, having to decipher alone what is true and what is not has made me more scrupulous and has increased my confidence in my religious identity.

In addition to affirming my own beliefs, I had to learn to open my ears to others' opinions. When I first came to college, my insides would be physically sick from hearing things incompatible with my own beliefs. I think the confusion of how to react to and process incompatibilities was confusing and disorienting since I had little prior experience with this. To be honest, I have yet to completely move past this, and I still have a hard time hearing at times out of anxiety of how to interpret differences. I have, however, discovered that learning to hear others shows them respect and can help me to form better, more informed opinions. I do not have to agree with people in order to consider and understand their ideas and beliefs. To accept them is my choice, and I do often change my opinion thanks to discussion with others. Without leaving my bubble, I would not have the skill nor the chance to hear these people, and now I do have these opportunities to change for the better.

Leaving the bubble of my Lutheran world forced me to grow in new ways. If my friends from D.C. today had the same conversation with me, I would know to ask them more questions to hear their opinions more fully, and to research the topic in question on my own. That same friend gave me a rosary chain; I now view it as a symbol for my growth in exploring and accepting differences, and it hangs on my bedroom wall today. Thanks to my new and different world, I have met my partner and teachers and friends of all religious and national backgrounds. While I still identify with the Lutheran community, I am glad to have grown outside of it and to have transformed in ways only possible through encountering others with an open mind.



This rosary chain is from my friend who I met freshman year. The chain reminds me of my friends and other people who are different than me.

Transformation

Normalizing Struggle

I thought school and learning were important but also something you succeed in by ‘just doing it.’ Academically, I felt like I could do anything. During my freshman year, I bounced around majors, entering as dietetics, switching to communication, and even tacking on global studies at one point. Then, I realized I missed math class and enrolled in calculus as an elective for my own enjoyment. Eventually, “mathematics” sounded good to be on a diploma, and finally, I settled to declare myself as an applied mathematics major.

My second semester in my second academic year, I loaded up with five major courses, three being upper-level math courses. I went at these courses with the usual attitude: go to class, take the notes, and do the homework right before class. This had always worked for me.

It did not work for that semester, and I faced my first significant academic challenge.

One course, called Modeling for Numerical Approximation, made me question my intellectual ability. That class had only five assignments for the entire semester. I opened the first one an hour before the due time, and... comprehended nothing. My face turned red, and when the professor dealt a failing grade the next week, I definitely cried a little. I was shocked and felt like a failure for the first time. I remember running into my advisor at lunch in Ryan, then venting and insisting on dropping. She said, “Don’t do that. It will get better.” I could have gone to the registrar myself and withdrawn from the course. I didn’t go, however, and I’m not sure why I listened.

The course continued to be difficult. The teacher assigned us into groups, using an S-curve: the best-graded students with the worst graded, the second best with the second worst, and so on. Because of my F, I was partnered with the top students. This worked out, because they had a great work ethic, and became my friends in the class. We studied together, and they influenced me to work on assignments early. We would meet sometimes, discuss the problems, and write ideas on the whiteboard. I learned better work habits like starting earlier and how to lighten the load by teaming up. Because of my teammates,

Modeling became my favorite class. The class was still grueling, but I began to enjoy the challenge because the results satisfy you more when you put in more effort.

Those classmates have since graduated, but their influence on me has remained. I view that semester and that specific course as my breakthrough from a typical student into a hardworking professional because now I realize the work and effort actually required for success. I do frequently continue to feel overwhelmed with workloads and difficulty levels. (Shout out to you, Linear Algebra.) Yet, the situation is always eventually okay because, as my advisor said, I know that hard things “will get better” if you give the appropriate and proper time and effort. A great amount of needed effort does not always mean I am failing, and with the help of those around me, I’ve learned to always get better at adapting and growing in response to tough tasks. Knowing that, I can’t wait to have a hard time in class.

Josephine Bahr

MTH300

26 February 2018

Group Summary

My group had the made-up problem about the seals coming to the beach. In my group, we had Mary, Mike, Steven, and me. Mary helped by keeping us organized and delegating tasks to everyone. Mary wrote the introduction for our paper. Mike helped by leading us in the actual model configuration and checking the validity of each step. Mike also typed up the majority of our written report. Steven kind of played Devil’s Advocate when we originally came up with the model. I worked out that our system of equations had the correct units and came up with the parameters for cost of each mile and the inflection point. I also added proofread the report and added the explanation and conclusion for crews.

Josephine Bahr

MTH300

16 April 2019

Group Summary, Project 2

My group had influenza as our assigned disease. In my group, we had Mary, Mike, Steven, and me. Mary scribed our equations and typed them into Excel. Mike led us in the actual model configuration and validated each step. Mike also typed up much of our written report. Steven looked up sources and provided comments. I aided the equation devising, plus found the resource for and evaluated the transmission rate we ended up using.

Above are two of the reports I had to write about our group working together. (Note: the year is incorrect on the first one and should be '2019'). This shows how we worked together from the viewpoint of Josephine who was still in the middle of working with them.

Exploration

Wait, Communication?

Coming into college, one of my top goals was to have better communication skills. My mom had homeschooled my siblings and me for about six years, and afterward, I went to a tiny high school with a graduating class of forty-two. While I am thankful for the education, that upbringing didn't teach me the communicating skills I need for general life. All the time, I could feel how socially awkward I was / am, and with the transition to the independence offered by college life, I felt this was the time to try improving my social skills.

During my freshman year, I had mostly gen eds, and one class in particular struck my interest: Communication in Everyday Life. We talked about many topics that related to daily life. We learned about relationship maintenance, self-presentation, conflict management, and much more. I gulped down the information like a starving person, and when the course ended, I fell short of satiation and needed more. Thus, I talked to the chair of the communication department, and she helped me to submit paperwork for majoring in communication studies.

I felt excited by thoughts of reading and studying communication in different contexts. I wanted to take extensive notes, give speeches in class, and write topical papers. I also loved numbers. That other competing love won out, and I switched my major to Applied Mathematics. I learned a vital lesson from these courses though: communication is essential for every person. Therefore, I kept communication a part of my education, this time as a complementary minor.

Working on this minor has taught me many skills. Often, when someone is speaking to me or hanging out with me, I can decipher their body language or can know how to more effectively reply to what they're saying. Before college, unplanned conversations would make me stammer uncomfortably. Now, I have random and good conversations with people every day, and that's no longer a big deal because my education (plus trial-and-error) has equipped me.

Even with my degree, the communications minor has helped in unexpected ways. For instance, math is straightforward, and, coincidentally, writing with respect to the math field is

also straightforward. My writing often becomes very direct. Because in communication we emphasize recognizing appropriate tones and audiences, I know to give my writing the proper fluffy description when necessary. This could mean, for example, adding friendly words to an email for a coworker or a professor, or adding more adjectives to make presentations compelling. With a subject such as math that often comes across as dry or even cryptic, having the ability to communicate ideas effectively is increasingly important as I proceed further into my math specialization.

Some gen eds are something to merely complete, yet some, like that COM101 class freshman year, will set your life on an altered path. Studying communication has expanded my education and social life, and it has additionally set my career in math up for a hihe

Josephine Bahr
Professor Stewart
COM 101
18 October 2017

Informative Speech: SELF-CRITIQUE FORM

Goal: To evaluate your own performance during your informative speech.

Rationale: As a form of cognitive restructuring, this exercise can help reduce public speaking anxiety. It also helps you to set specific and realistic goals to improve future presentations.

Directions: After giving your speech, watch your video, and then complete this form based on your experience. Be sure to provide specific examples from your speech to illustrate your points. If need be, refer back to the informative speech grading rubric regarding what to analyze under each category.

1. In terms of **Nonverbal Delivery**, I did the following things EFFECTIVELY in my last speech:
 - a. I used my arm own arm as a prop for the audience to visualize the makeup of a neuron during my main point about the pruning process.
 - b. At the end, I numbered off with my fingers the three main points of my speech to recap for the audience.
2. In terms of **Verbal Delivery**, I did the following things EFFECTIVELY in my last speech:
 - a. I had little to no word fillers throughout my speech so my audience could follow what I said more easily.
 - b. I tried to incorporate into my speech both some words that were easy to understand for the audience to comprehend quickly and some words that were just complex enough to give me credibility.
 - c. Surprisingly, I remembered to cite each of my sources!
3. In terms of **Structure**, I did the following things EFFECTIVELY in my last speech:
 - a. I delivered my speech in a way that the audience could clearly tell when I was in the introduction as well as when I was in the conclusion.
 - b. I had the perfect amount of three main topics. That number was perfect because it was not so little that people thought "That's it?" and not so much that people felt overwhelmed and retained very little.

4. In terms of **Content**, I did the following things EFFECTIVELY in my last speech:
 - a. My content had relevancy to every single person in the room because my speech's topic was the types of memory loss that every single person has experienced.
 - b. My content elaborated off of basics that people generally knew already. For example, I explained more about the bare fact realized by everyone that they can not remember their own births.
5. If I could do my last speech over again, I would do the following things differently:
 - a. I would try to have smoother transitions between my main points.
 - b. Instead of making slight but distracting steps with my feet, I would stand still or make more purposeful steps.
6. Overall, I would give myself 43/50 points on my informative speech because....

I did nothing to stay within the time restraint, failed to restate my thesis in the conclusion, teetered on my feet, and bumpily delivered my transition between the second and third main points.
7. To improve as a public speaker on my next speech, I am going to try to:
 - a. I will think of smoother-sounding transitions.
 - b. I will try to cope with quaking legs in a better way than random pacing. When I gave tours for my job, I was always walking and moving to showcase different attributes of the toured place, so I am used to moving around a lot when I speak. Maybe I now out of habit need something to do with my feet, so next time I will try to incorporate more purposeful movement into my speech.

Above, this critique is an assessment that I wrote in COM101. This homework and other in the course fall in love with studying communication.

Exploration

Ordered Disorder

"That's Jos's shoe pileup," my sister pointed out to a guest. "My bad," I replied, joining them to look upon the five to six pairs of shoes right inside the front door. "I'll put those away later." I did put those in the 'proper' place later in the bucket beneath my bed. As I did so, a thought came to me: *Clearly, that location by the door is convenient for me. I leave my shoes there every day anyway. Thus, why can't my shoes belong in that place too?*

At age seventeen, I was diagnosed with Attention Deficit Disorder (i.e., ADD). At the time, accepting that as a new part of my identity was a struggle. For a while, I didn't like that part of me and often wished that I never knew. I hated the label of ADD. As I've gotten older, I've come to see it as benefit because I can be more knowledgeable in interpreting my personal quirks in life.

For me, ADD expresses itself through forgetfulness, excessive daydreaming, and often leaving tasks unfinished, along with many other traits. While my doctor did teach me coping methods, I began to think how changing the environment around you to suit you also helps quite a bit. We learned in Intro to Psychology that the environment one lives in can greatly affect one's health, and I've since continually explored how I can make physical spaces more conducive for me as a person.

Throughout my life, I've struggled with maintaining an orderly living space. I felt frustrated constantly because I couldn't seem to keep a clean space or keep track of things like a normal human being. I've come to realize I should start trying to live as an ADD person. If the current ways I was taught and shown by others weren't working anyway, then there was no harm in trying new ways to orient my physical space. Seemingly small things like a more intuitive room arrangement, or designated dump spots in my home, started to make a big difference in my quality of life.

I've found things that work for me. You'll see my work area set up at the dining table, not my desk. You'll find my bike in its own spare room. My keys are always hung on that hook, and my spices are religiously confined to one box. When you walk into my apartment and my bedroom, you'll notice how orderly (though not spotless, mind you) my space is. I am not an orderly person. Rather, the orderly environment is in spite of my disordered self. These things work for me. They seem mundane and everyday, but these and a sum of other physical arrangements have reduced my ADD-related stress greatly.

Looking for the small external adjustments reflects the internal adjustments. With hearing the diagnosis four years ago, I've been trying to make sense of the newly visible type of chaos in my mind. It only makes sense that adjusting my thoughts would cause me to adjust the environment around me. I'm okay with being "not normal." What is "normal" anyway? My thoughts are my own, and I think my space and how I live in it should match me

and how I operate in the world. And much to my sister's chagrin, that includes shoes by the door.



Pictured above is my bike. As mentioned, it has its own bedroom in my apartment. I don't store it in the garage or basement because I know I would forget about it. Thus, storing the bike where I have it in my living space means my bike will get more use.

Leadership

Teaching

I remember as a teen, my mom would see me checking one of my classmates' homework assignments, and she would chide me to worry about my own work first. She wanted me to do my best, and she always had a good point. Whenever my classmates asked for help, however, I always agreed quickly. I used to attribute that tendency to be a pushover, and while that may be a bit true, I now think that guiding people and growing with them is one way I am a leader.

A little over a year ago, the Math and Computer Science chair reached out via email to explain that the department had an opening for a teaching assistant. She wanted me to guide students through lab sessions for the freshmen C++ course. I felt honored and quickly accepted the position. I knew as a student that the best teachers are those who care about the students. I cared about many of my underclassmen, and so I hoped that I could be for them like other teachers had been there for me.

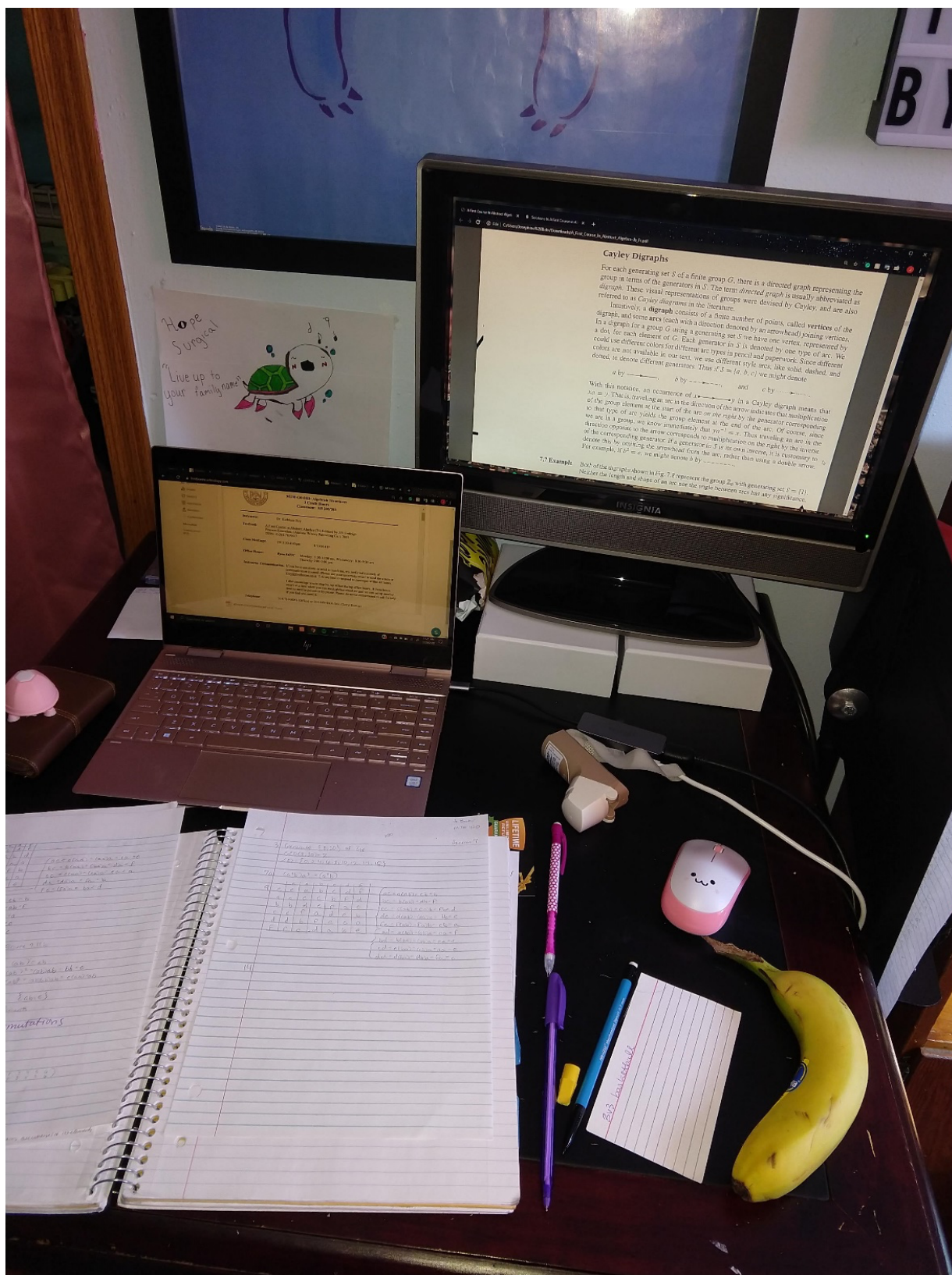
When the first lab came around, the amount of learning required to teach became evident. Apparently, before you help others with something, you should also know about the subject. I had taken the same course previously yet still found myself furiously cramming before each lab session. For the most part, when a student asked a question, I could help. Occasionally, I would have no clue though, and we would research the problem and learn together. These moments were great reminders that while I was the teacher, we were still students together in the end.

In every lab session, the students taught me patience and open-mindedness. The students had varying needs and levels of skill. Some would ask a quick question and move on, while some would want me to sit with them and guide them through several steps. I learned to sit attentively with those students, letting them go through trial-and-error and stepping in only when they seemed to need a hint. Sometimes, it was very tempting to take the keyboard and type all the code for them, but I constantly reminded myself that everyone needs to go through part of the learning process on their own. The most difficult and

interesting part of labs was deducing when to correct or hint at a student, and this becomes easier as you gain more experience and get to know them.

Because I am also a student, I could relate to their challenges. When a student would struggle with a concept, I'd say something along the lines of "Oh yeah, that module was tough last year too" or "Man, I still have trouble with that sometimes. Let's look at this for a second." I liked seeing their relief when I acknowledged that their struggle is shared or told them that they're doing great. Perhaps, when the words come from a teacher who is pretty much in the same boat, then the words of encouragement are more believable from a student perspective. I was glad that my status as a fellow student could benefit the lab students.

I connected with numerous students and was able to see them improve. That one email sparked a major change, and I'm glad for that change because it brought to surface another passion in my life, which is becoming a college professor. I'm also inspired to incorporate teaching more in my daily life. For example, that could entail something as simple as showing my sister how a bell curve works or, professionally, setting aside time to help someone with a task at work. I can't wait for all my future opportunities to lead people through teaching.



Pictured above is what my setup for leading labs remotely looked like. I had a table in my 10-year-old sister's room because I was staying with my parents during the first two months of the corona pandemic. My laptop had a mic and webcam which I used Zoom on, and the second monitor usually had code or other lab materials pulled up.

Leadership

Personalizing Leadership

The FIRST Leaders is a team of student leaders who are selected for welcoming new international students. We train, run orientation, and put on events every year. I'm shy and reserved so when Jessica asked me to be the Chair, I was pretty nervous. The fact that she asked me though gave me the confidence to think she saw a reason why I should be the Chair. While she acted as my supervisor, I led the other FIRST Leaders and began to discover what type of leadership suited me.

Some people lead in obvious ways. Jessica had a confident, commanding voice. When she spoke, you listened, and she always seemed to know what things had to be done. Figuring out how to, and who would do those things, was my job.

A problem, however, surfaced; I lacked the commanding voice needed to speak to the group. It's nerve-wracking talking to a group of people with the anxiety that no one will respond but also with the thought that too many will respond at once. Smaller conversations are much better and more comfortable. Thus, I thought of trying to lead the group by individually leading each person.

One challenge that arises when leading a group is the conundrum of group responsibility. The book *Influence: The Psychology of Persuasion* goes into depth on this topic, and I've also seen this issue come up often throughout life. Take for example, my mom. She'll ask for something to be done, but she'll ask an entire room. Then, no one does anything because we all think someone else will do whatever she asked. I learned from my mom and that influence book, and so in my own group of FIRST Leaders, I wanted to try making request by targeting specific people. When a task needed doing, I would specifically ask someone to take responsibility.

Not only does this issuing of responsibilities result in the completion of tasks, but more importantly, it also opens doors to matching the task to the person. Over time, I got to know the other FIRST Leaders and their personalities and skills. I figured the work overall would be easier if people in general did the tasks suited to them. This meant, for example, asking the extroverts to do airport pickups or asking the artists to make our welcome signs. This makes

working together an overall better experience because people were more willing to do tasks that befit them. As their leader, I made it my job to know each person's strengths and put them to work where they could complete tasks and enjoy doing it.

Some people lead in less obvious ways. During the time as FIRST Leader chair, I learned that I lead by knowing the group's individual strengths. When you know these, you get to know your group members better and strategize toward meeting your group's goal. This type of leadership works for me because I don't have that commanding motivational voice like Jessica's, but I can make up for it in other areas, and I like learning how to do so. I think that's my strength as a leader, and because you guide different individuals each time you are in a leadership position, this individualistic leadership will always have more room for growth.





The two above photos are my team of FIRST Leaders from the semester of fall 2019. These photos are from the training days leading up to meeting the new students at orientation. We spent about two weeks together to get to know each other before the new students arrived.

First Photo: (back row, left to right) Noella, Ana, Minh, Lakayline, Josephine (Me), Ashaunti, Ben. (Front row, left to right) Anna, Aki.

Second Photo: (back row, left to right) Noella, Josephine (Me), Ashaunti, Minh, Ben. (Front row, left to right) Anna, Ana, Aki, Lakayline.

Occupation

Getting to Know Mathematics

Several years ago, I got a taste of math beyond the basics. Intro to Stats and Calc were gateway courses. They have exciting essential concepts and preview why people spend their entire lives working problems. When my freshman year at Fontbonne rolled around, I felt that excitement factor that I usually felt in academia was missing, and then I noticed the absence of math courses in my schedule. By the end of freshman year, I declared as a math major. Since then, I've developed a relationship with and found several meanings within my mathematics degree.

Mathematics opened an entire world of discovery for me. Yes, numerous theories and the overall foundations have already been extensively explored, but the establishment of those gives us the tools to understand and explore more ideas. To be a mathematician means to take abstract concepts and give them some concrete form. You have to build the skills to pay attention and to ask the right questions. You have to study and gain experiences to know where to begin answering those questions. If you don't know a topic, then you think of something similar you already know, and use that knowledge to help define your topic. My time studying mathematics these past four years has taught me how to explore new knowledge, which is great because while I can't know everything, I do know how to navigate through unknown territory.

I think that's the point of a math degree, to learn how to learn, more than to learn specific concepts. If the point of this degree was to be a well-informed math expert, then the program failed. Rather, the program gives students a base to grow further. Yes, it's great I have 2 to the 10th at the front of my brain and can recite the conditions of a valid probability mass function. I'm by no means an expert within any mathematical field, and that's okay. Each course we've had has basically been an introductory crash course in random fields of math. My degree has been more of a sampler pack than anything else. In this way, my math degree has set me up for future success. Because I've had to learn how to navigate through different topics for nearly every course, I know how to adapt to learning these new topics. Additionally, knowing a bit about many things opens so many doors. Perhaps, the hard part is picking which doors to go through.

The plethora of doors includes connections to other fields of study as well. Whether they care to admit or not, everyone has a need for mathematics. I love how math can in some way be used as a tool for anything. Whether it's financial planning or logical writing structure, this excites me, and I feel proud of math, almost as if it's its own hardworking entity, trying to stay relevant. A faculty member here once advised me to not disqualify any future field of study because math is found somewhere in every workplace. Sometimes a close friend and I fantasize about us working together on research projects in the distant future when we're professors at our respective universities. She's a psych major and I'm into statistics, which are seemingly irrelevant to each other. But, because of math's diverse applicability, we are connected and can see many possible future collaborations.

It's so funny now (not "funny haha". Rather, "funny peculiar") how I look back at those original gateway courses now and think those classes barely represent the math world and only touch on the surface. Yet, those classes gave me a taste for more. I dedicated my academic career to something I didn't fully understand. I suppose that's why anyone chooses a dedication, because they want to understand it more fully. During my time at Fontbonne I've come a long way with math, and the best part is that there's still miles of road ahead.

Conversational A.I.: Predicting future response sentiment in one-on-one dialogue



Josephine Bahr

Advisor: Kay Graves

Applied Mathematics

Fontbonne University

Department of Mathematics and Computer Science

Spring 2021

ABSTRACT

This project focuses on mathematical applications for one-on-one texting conversations. Welcome to the realm of conversational A.I. (artificial intelligence), a field that also studies the commonly-known predictive text. Instead of suggesting words, however, this project will make predictions in text sentiment. Text sentiment models detect emotion in natural written language.

With development of models that can tag present emotions, this project looks to further apply the field of text sentiment. If a model exists to tag present emotion, then perhaps the tags can be used to predict future emotion. This project specifically applies this question to texting conversations between two people and tries to predict the emotion of a text message response before it has occurred. The goal is for a sender to have more insight into response sentiment before choosing to send a message.

The resulting predictions are built upon statistical concepts in logistic regression, and the code will be written in Python using Jupyter Notebook.

This is the visual aid poster of my senior synthesis project. The actual copy hangs in the hallway of the Math and Computer Science department. The abstract explains how this specific project connects to other fields of study.

Occupation

Getting to Know Mathematics

I've always dreamt of what exciting and groundbreaking career I would have. Everyone grows up dreaming what they'll do with their life. The possibilities of future successful careers seemed like a game. A game where I could do whatever I wanted and play around and be happy. The naive overconfidence has begun to slip away as I've edged closer to entering the careerwoman portion of my life. I've realized that this game to find a job is confusingly full of double standards and blurry criteria.

In a mock interview recently, the interviewer remarked how my personality is low-conflict and may win a position. Personalities are very complex, and considering the mix of personalities in a work environment is important for employers. I think that it's smart to look beyond skills and look at personality traits. At the same time, employers use random unrelated things to determine your worth. I've always had trouble with firm handshakes, and people aren't shy to note my weak grip. I don't really understand how the grip of my hand determines my intellectual ability and work ethic, and I personally find firm handshakes to be aggressive. At the same time, if I realize that a firm handshake and other insignificant actions can land me a job, then why can't I make myself to do them? The job search is funny that way.

Another funny thing is being a woman in the world of information technology. People will casually joke to me that I'll get a job easily in IT because I'm a woman. They joke and I laugh politely, though those words aren't funny to me. I don't want to be a diversity hire; I want a job because I'm qualified for the position. On the other hand, I suppose I should take any advantage where I can. Although, I often feel how I express my femininity is a disadvantage too. People tell me to use stronger language and less "kind of"s" and "maybes". Through studying in my gender communication course, I know that women tend to use this kind of language to soften the impact of their words through vocabulary choice (this of course, is a generalization). They say being a woman is an advantage yet they want me to dampen the ways in which I show I am a woman.

In finding a job, I am always confused and trying to decipher what I'm actually supposed to do. There's this peripheral feeling that I'm supposed to be doing something, and I'm not sure what that something is, like the secret trick to get hired. Through the frustration of this unknown territory, I've created this tension between the working world and myself. Not having a job lined up after graduation is very stressful, and I unhealthily blamed the world for shutting me out from getting hired. I do know realistically that other things are at play, like the job shortage. I have begun to reconcile with this imagined tension and the lingering bitterness. I am trying to have a more hopeful attitude toward applying for and interviewing for positions. Actually, more employers have been reaching out since then. Maybe it's my better attitude, maybe it's random timing, but the positive reinforcement persuades me to keep having more positive thoughts.

I wanted to include this particular reflection because this is still an unresolved story and it reveals some of my daily worries as a student graduating in a pandemic. The others are closed accounts where I am satisfied with the meanings of those experiences. Perhaps, if I write about this experience in a few months, then this reflection will have a more positive tone too. With this account though, being in the middle of a story is frustrating when you haven't reached the resolution of all the pain being worthwhile. And to be honest, jumping through the hoops feels unendingly tiring. This game turned out to be less fun than I thought. I don't really like playing anymore. Though, I will continue and, perhaps, eventually win.

Josephine Bahr

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Education

Applied Mathematics, B.S. – Fontbonne University

(Aug 2017 – May 2021)

Minors: Data Analysis, Computer Science, Communication Studies

Cumulative GPA: x.xxx

Honors: Presidential Scholar, Dean's List, TELOS Honors, Outstanding Math Student, Latin Honors

Skills/Coursework

Mathematics: Data Visualization, Data Cleaning, Quantitative Analysis (e.g., Monte Carlo Simulation), Modelling for Numerical Approximation, Advanced Statistics (e.g., Linear Regression), Probability, Machine Learning, Multi-Variate Calculus

Computers: Microsoft Excel, R, Python, C++, Java, SQL, Relational DB, Data Structures and Algorithms

Soft Skills: Critical Thinking, Prioritization, Written and Oral Communication, Integrity, Organization

Experience

Data Analytics Intern – Centene Corporation

(May 2020 – Aug 2020)

- Used Python as an analytical tool in Jupyter Notebook on the Anaconda suite.
- Developed text sentiment analysis for employee survey data, using pre-trained NLP classifier.
- Queried and processed employee data for future licensing cost insights, via ServiceNow and Excel.

IT Management Intern – Centene Corporation

(May 2019 – May 2020)

- Utilized Excel to maintain metrics for tracking and reporting of teams' business value.
- Queried from Oracle DB and applied data analyses and visualizations, paving for later automation.
- Modeled systems of equations in various contexts. (e.g., ROI or count of insurance claims)
- Implemented calculus methods to monitor and analyze the rate of change in servers' user counts.

Communication & Analysis Intern – Springfield Right to Life

(May 2018 – Aug 2018)

- Corresponded via email and phone to communicate on organization's behalf.
- Built a manual data recording and report dashboard, using Google Sheets and GoFormz.
- Created crisp charts for visualizing data to present at board meetings.

Teaching Assistant – Fontbonne University

(Jan 2020 – Dec 2020)

- Communicated C++ concepts to students in the Mathematics and Computer Science Department.
- Read and quickly comprehended code to notice functional intent and potential errors.

Barista – Aladdin Food Services

(Feb 2018 – Present)

- Make good products while improvising with good judgment and interacting well with teammates.

Projects

Predicting future response sentiment in 1-on-1 dialogue – Undergraduate Thesis (In Progress)

- Fitting a prediction model for one-on-one text conversations to, when given a message (the explanatory variable), find how a recipient will respond in descriptive stats and sentiment (the response variables).
- Currently interpreting analyses in python and preparing the formal research paper for review.

Personal book tracker – Database Management Course

(Fall 2019)

- Users can select, update, insert and delete instances of books that they have read or want to read.
- Used HTML, PHP, and Maria DB, featuring protection from SQL injection.

Extracurricular

Secretary of Math & Computer Science Club

Women's Tennis Player

Student Government Representative

Chair of FIRST Leaders (international student support)

Pictured above is my resume (edited for privacy). I edit and update the file nearly every week to keep up with applying for jobs so frequently. The formatting and included information are based on extensive research and trial-and-error by me.

Service and Social Justice

How to Serve as a Voice

As many people do, I've searched and reflected on my purpose here in the complexity of life. No one has yet revealed to me my complete set of purposes, but I do know one of mine. Throughout the years, advocating for unborn children and abortion alternatives has frequently been on my mind, in that way that a person feels it has a reason to be on their mind. Fighting the normalization of abortion has remained a persistent call. Therefore, I think that being a part of the world for me means to serve as a voice for unborn people.

Knowing that I wanted to fight for the rights of the unborn proved to be entirely different from actually joining the battle. I am timid in conversation and am non-confrontational. I was jealous of those who spoke at conventions or led defense rallies because I respected them for doing things I couldn't see myself doing. I believe that while you should be prepared to leave your comfort zone, you should also use your strengths when possible. Moreover, I knew I'd be way outside of my strengths by working controversial booths or phone campaigns. I reflected on this deeply, thinking about how the unborn could have a voice through specifically me, Josephine. I knew I was less of a direct speaker and more of a listener and provider.

Then, one summer, after freshman year, an opportunity presented itself as a seamless intersection of using my personal strengths and going outside my comfort zone. Under the summer sun, an acquaintance and I spent every morning in front of an abortion clinic. We did sidewalk counseling and simply handed out information about alternative options. We listened if people wanted an ear and spoke when people wanted a reply. I also talked to other volunteers and helped the local pro-life advocacy group with their spreadsheets. That summer I truly felt like I had stood as an advocate in the combinations of ways that only I could, and serving the world in this way felt right and comfortable. While I already knew that encouraging society to value unborn people was important, that summer's experience solidified that this was important to me.

After that summer, the following years increased in academic rigor and caused my schedule to fill up. I struggled with the cognitive dissonance of feeling the need to continue to

serve those in need while at the same time not doing so in what I had imagined was the 'proper' way. How could I still advocate for the unborn and interact with the world while I can barely keep up with my own life? How could I continue to put time into my calling when my time is already stretched very thin? At times, I felt I was a horrible person, as if I had made my schedule too busy on purpose.

After much thought, I came to realize that a change in your actions does not imply a change in your values, and I finally settled into having sprinkles of advocacy where it made sense in my life. At first, that felt like giving up, but I've since re-decided that the sprinkling kept my foot in the door of the pro-life cause. I am proud of myself for not allowing that door to close when it very well could have. This helped me to notice in myself and in others the quieter versions of advocacy people can practice, such as donating or joining marches, or even simply speaking up in personal conversations. Standing up for the unborn doesn't have to be loud or obvious. Perhaps one day, in a different period of my life, my advocacy for the unborn will be loud and obvious, but for now, it remains gentler and quieter.

Over time, I change and my situation changes, but my goal to act as a voice for unborn people has not changed. Yes, at times, figuring out how to have a voice is confusing and takes effort. Yet, the confusion is necessary and worth it because giving parts of myself to speak for others in need makes me feel purposeful and useful on this earth. Though it may look different at times, I will never stop following my call to be a pro-life advocate.



The foot pin (top right) is on my bag. I received it as a gift from the President of Springfield Right to Life. The foot represents the size of a child in the womb's feet at 10 weeks post conception. I've worn this on my backpack for the past three years, and it serves as one form of advocacy for the pro-life cause.

Service and Social Justice

How to Serve as a Voice

In East building, on the first level, you will find a small room, or perhaps you may see it as a large closet. That closet houses the Griffin Market, i.e., the campus food pantry, and is lined with food items from each of the food groups. The obvious purpose for this food pantry is to feed students and other members of the Fontbonne community. The Griffin Market, however, also serves a second, more hidden purpose.

During my junior year, the Family Resource Management course required students to accumulate service hours. Out of convenience, I chose to fulfill the hours by volunteering for the Griffin Market. The Market was on campus and had flexible hours, which sounded perfect. I thought giving my time to this would be the simplest way to fulfill this requirement. And it was for the most part. People came into the Market, I recorded their items, and then they left.

Well, some of them left. Some would hang back and talk about their day. I'll never forget specifically one male student who walked in, laid down on the floor by the pasta, and proceeded to talk about his crappy week for the next twenty minutes. Afterward, he sat up, looked at me and said, "Right now is the best I've felt all month. I really needed to talk to someone." He made me realize that this place had more purpose than just supplying food; the Market was a little place where people could feel safe and heard.

That semester, I served the community and helped my Fontbonne neighbors by offering active listening to those who needed it. There was no sign to explicitly tell people they could be heard here, but I wondered if the offering of one need (food) caused people to associate the Market with other needs such as a listening ear. Sometimes people needed their bottled hopes for the future to be heard, and sometimes people needed to let out how much their life sucks at the moment. Whatever the matter, even if the subject seemed of low importance to me, I tried to listen because that person was talking about that subject because it mattered to them.

I learned that serving people goes beyond physical needs, and we must address mental needs too. Many of us know firsthand that telling another about something on your mind makes you feel less alone and makes that something feel more bearable. It can,

however, be difficult to find a place that feels safe enough to set down some of your load, and so I feel honored to have been a part of a place such as the Market that offered that level of comfort.

Overall, I'm glad that volunteering for the Griffin Market differed from my expectations and went beyond supplying food. I learned the importance of people's need to be heard. After that semester, I've since continued to try practicing active listening in my work, family, and social life. I hope to continue working on listening skills because you never know when someone needs to feel heard.



This photo shows the Griffin Market, the cozy closet where many students visited every day.